REMARKS/ARGUMENTS

Applicants appreciate the thorough examination of the present application, as evidenced by the first Official Action. The first Official Action has required restriction between Group I, namely Claims 1-37, and Group II, namely Claims 38-42. As indicated in the Official Action, during a telephone conference between the Examiner and Applicants' undersigned attorney, Applicants provisionally elected with traverse to prosecute the claims of Group I (Claims 1-37). Applicants hereby affirm the election, with traverse, to prosecute the claims of Group I, and expressly reserve the right to file divisional applications or take such other appropriate measures deemed necessary to protect the inventions in the remaining claims. Accordingly, Applicants have cancelled the non-elected claims of Group II (Claims 38-42).

Of the claims elected for prosecution, namely the claims of Group I, the Official Action rejects Claims 1-8, 10, 12, 36 and 37 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,763,357 to Barr. The Official Action also rejects Claims 33-35 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,449,202 to Knapp et al. In addition, the Official Action rejects Claims 13-20, 22-29, 31 and 32 under 35 U.S.C. § 103(a) as being unpatentable over the Barr patent in view of U.S. Patent No. 4,587,651 to Nelson et al. Further, the Official Action rejects Claim 9 under 35 U.S.C. § 103(a) as being unpatentable over the Barr patent in view of U.S. Patent No. 6,195,749 to Gulick; and rejects Claim 11 under 35 U.S.C. § 103(a) as being unpatentable over the Barr patent in view of U.S. Patent No. 3,705,267 to Marino.

As explained below, Applicants respectfully submit that the claimed invention of the present application is patentably distinct from the Barr, Knapp, Nelson, Gulick and Marino patents, taken individually or in combination. Applicants accordingly traverse the rejections of the claims as being anticipated by, or rendered obvious over, the Barr, Knapp, Nelson, Gulick and Marino patents, individually or in combination. In view of the remarks presented herein, Applicants respectfully request reconsideration and allowance of all of the pending claims of the present application.

I. Claims 1-8, 10, 12, 36 and 37 are Patentable over Barr

The Barr patent provides a method and apparatus for providing secure electronic communications between data devices over an analog communications medium between first and second locations. As disclosed, each data device includes microprocessor controller operating under program control for determining the configuration of the message to be transmitted from one data device to the other. Each controller is coupled to a switching circuit that selects the configuration of the message to be transmitted. In this regard, the message can include characteristics that can vary, such as by the baud rate, transmission coding scheme, transmission method, parity technique, transmission technique (full or half duplex), carrier frequency and modulation technique.

A. Claims 1-8

Independent Claim 1 of the present application provides a network controller for digitally directing communications with a plurality of remote devices via a common bus. As recited, the network controller includes a transmitter for digitally transmitting messages via the common bus, a receiver for receiving digital messages from the common bus, and a clock for providing clock signals to both the transmitter and the receiver. As also recited, both the transmitter and receiver are capable of selectively operating in either a synchronous mode or an asynchronous mode. In this regard, the transmitter transmits both messages and the clock signals via the common bus in the synchronous mode, and transmits messages at a predetermined bit rate without any accompanying clock signals via the common bus in the asynchronous mode.

In contrast to the network controller of independent Claim 1, the Barr patent does not teach or suggest a network controller for digitally directing communications with a plurality of remote devices via a common bus, or a clock for providing clock signals to both a transmitter and a receiver of the network controller. The Barr patent discloses an apparatus (i.e., composite modem) to be coupled to each end of a communications system to facilitate secure communication between devices at respective ends of the system. More particularly, the Barr patent discloses a host data device **20** and a terminal data device **100** communicating across a communications channel **45**, where a composite modem is coupled to each end of the

communications channel between the channel and a respective data device. *See* Barr '357 Patent, FIG. 1. The network controller **32** of independent Claim 1, on the other hand, directs communications with a plurality of remote devices **36** via a common bus **34**. *See* Pat. App., FIG. 1. The transmitter and receiver of the claimed network controller, then, are capable of transmitting and receiving messages to and from the common bus, respectively.

The Barr patent does disclose that the composite modems include a number of characteristic controllers for controlling characteristics (i.e., baud rate, transmission code, transmission method, parity technique, transmission technique, transmission frequency, and modulation technique) of messages transmitted to and/or received from respective data devices. It could be suggested that such characteristic controllers correspond to remote devices of the claimed invention. Even in such an instance, however, the Barr patent does not teach or suggest a network controller including a clock for providing clock signals to both a transmitter and a receiver of the network controller, as recited by independent Claim 1 of the present application. The Barr patent does disclose that a host microprocessor **30** of the composite modem **20** of the host digital device includes a clock. Barr '357 Patent, col. 6, ll. 6-10. In this regard, the Barr patent discloses that transmission speed or baud rate of the host digital device can be set to a fraction of the microprocessor clock. That is, the Barr patent discloses that the transmission speed can be set by dividing the microprocessor clock speed by a number entered by a program that determines the transmission characteristics, where the quotient is the transmission speed. *Id.* The Barr patent does not teach or suggest, however, any other clock, or any other function of the microprocessor clock. More particularly, the Barr patent does not teach or suggest that the microprocessor clock provides clock signals to a transmitter and a receiver of the composite modem, in a manner similar to that of independent Claim 1 of the present application.

Applicants therefore respectfully submit that the network controller of independent Claim 1 is patentably distinct from the method and apparatus of the Barr patent. As dependent Claims 2-9 depend, directly or indirectly, from independent Claim 1, dependent Claims 2-9 are also patentably distinct from the Barr patent, for at least the reasons given above with respect to independent Claim 1. In addition, Applicants respectfully submit that the Barr patent does not teach or suggest additional features of the claimed invention as recited by various claims

depending from independent Claim 1. For example, as the Barr patent does not teach or suggest a clock for providing clock signals to a transmitter and a receiver of a network controller, the Barr patent likewise does not teach or suggest that the network controller further includes a clock transmitter for transmitting clock signals via the common bus, where the clock transmitter operates at a constant level during the asynchronous mode, as recited by dependent Claim 2.

Also, for example, as the Barr patent does not teach or suggest directing communications with a plurality of remote devices via a common bus, the Barr patent likewise does not teach or suggest commanding a remote device to at least temporarily direct the communication with the other remote devices via the common bus, as further recited by dependent Claim 4 of the present application. The first Official Action cites column 2, lines 45-51 of the Barr patent as disclosing this feature of the claimed invention. Applicants respectfully submit, however, that properly interpreted, the cited passage of the Barr patent merely discloses that the composite modems **20**, **120** can be used as standalone devices independent of the particular host and terminal data devices **10**, **100**, and can be placed at any distance between the host and terminal data devices. Thus, whereas the Barr patent does disclose various physical configurations of the disclosed apparatus, the Barr patent does not disclose that the apparatus operates in any different manner for those alternative physical configurations. Thus, in every case, the composite modems of the Barr patent operate in accordance with a program operated by a microprocessor.

Moreover, even considering the characteristic controllers to correspond to remote devices, the Barr patent does not teach or suggest commanding a remote device to at least temporarily direct the communication with the other remote devices via the common bus. In this regard, the characteristic controllers of the Barr patent are each dedicated to a particular characteristic of messages communicated between data devices. Thus, in no reasonable interpretation of the Barr patent could one characteristic controller be considered to be directed at any point to direct communication with other characteristic controllers, in a manner similar to that recited by dependent Claim 4.

Applicants therefore respectfully submit that the claimed invention of independent Claim 1, and by dependency Claims 2-9, is patentably distinct from the Barr patent. Thus, Applicants

respectfully submit that the rejection of Claims 1-8 under 35 U.S.C. § 102(b) as being anticipated by the Barr patent, is overcome.

B. Claims 10 and 12

Independent Claim 10 of the present application also recites a network controller for digitally directing communications with a plurality of remote devices via a common bus. As recited by independent Claim 10, the network controller includes transmitter for transmitting digital messages to the plurality of remote devices via the common bus at a predetermined bit rate. The transmitter is also capable of altering the predetermined bit rate at which messages are transmitted while communicating with the plurality of remote devices. The network controller also includes a receiver for receiving digital messages from the plurality of remote devices via the common bus at the same predetermined bit rate at which messages were previously transmitted to the plurality of remote devices. As such, the receiver is capable of receiving messages as the transmitter alters the predetermined bit rate without relying upon any clock signals.

In contrast to the network controller of independent Claim 10, like with the controller of independent Claim 1, the Barr patent does not teach or suggest a network controller for digitally directing communications with a plurality of remote devices via a common bus. Even considering the characteristic controllers of the Barr composite modem to correspond to remote devices, however, the Barr patent also does not teach or suggest a receiver for receiving digital messages from the plurality of remote devices via the common bus at the same predetermined bit rate at which messages were previously transmitted to the plurality of remote devices such that the receiver is capable of receiving messages as the transmitter alters the predetermined bit rate without relying upon any clock signals, as also recited by independent Claim 10. In this regard, consider for the sake of comparison that the host data device **10** or the host microprocessor **30** of the Barr system corresponds to the network controller of the claimed invention, and that the characteristic controllers **50, 60, 70, 80, 90, 100** and **110** of the Barr system correspond to remote devices of the claimed invention. In such an instance, neither the host data device nor the host microprocessor alters the bit rate of messages transmitted to the characteristic controllers, in a

manner similar to the transmitter of the network controller of the claimed invention. The only element of the Barr system that alters the bit rate of messages is characteristic controller **50**, which inputs data at an original rate from the host data device and outputs data at a new rate.

Alternatively, consider for the sake of comparison that the host data device **10** and/or the host microprocessor **30**, in combination with the host composite modem **20**, of the Barr system corresponds to the network controller of the claimed invention. Also consider that the characteristic controllers **150**, **160**, **170**, **180**, **190**, **200** and **210** of the terminal composite modem of the Barr system correspond to remote devices of the claimed invention. Even in this instance, the Barr patent does not teach or suggest a receiver for receiving digital messages from the characteristic controllers via the common bus at the same predetermined bit rate at which messages were previously transmitted to the characteristic controllers such that the receiver is capable of receiving messages as a transmitter alters the predetermined bit rate without relying upon any clock signals, in a manner similar to that of independent Claim 10.

As disclosed by the Barr patent, the configuration of messages, including the baud rate, is set for a time interval after which the configuration changes. To change from one configuration to another, the transmitting unit signals an interrupt and transmits a new configuration messages defining a different configuration. Barr '357 Patent, col. 4, ll. 3-7. The Barr patent, then, appears to disclose that all messages for a particular configuration, and thus baud rate, are transmitted and received for a time interval marked by receipt of a new configuration message. Thus, whereas a receiver of the host data device/composite modem of the Barr system would be able to receive messages from the characteristic controllers at the same bit rate that those messages were transmitted, the receiver would not receive messages in such a manner as the transmitter alters the bit rate. Instead, the transmitter and receiver of the host data device/composite modem is more likely to transmit and receive messages at a given bit rate for the time interval of a particular configuration, and at the conclusion of that time interval, at the bit rate of the next configuration. As explicitly disclosed by the Barr patent, "the transmission speed value for each successive time interval is calculated, under program control, to be set such that the new speed will be far enough from the old speed to prevent interception by a receiver that has not changed its reception characteristic to match." Barr '357 Patent, col. 6, ll. 16-22.

Thus, the Barr patent does not teach or suggest the respective elements of the system operating across time intervals, and thus configurations and bit rates, much less that a receiver of a network controller receives messages at the same bit rate at which those messages were transmitted such that the receiver is also capable of receiving messages as the transmitter alters the bit rate.

Applicants therefore respectfully submit that the network controller of independent Claim 10 is patentably distinct from the method and apparatus of the Barr patent. As dependent Claims 11 and 12 depend from independent Claim 10, dependent Claims 11 and 12 are also patentably distinct from the Barr patent, for at least the reasons given above with respect to independent Claim 10. Thus, Applicants respectfully submit that the rejection of Claims 10 and 12 under 35 U.S.C. § 102(b) as being anticipated by the Barr patent, is overcome.

C. Claims 36 and 37

Like independent Claims 1 and 10, independent Claim 36 provides a network controller for digitally directing communications with a plurality of remote devices via a common bus. As recited, the network controller includes a transmitter for digitally transmitting messages via the common bus, and a receiver for receiving digital messages from the common bus. As also recited, the transmitter is capable of transmitting an indefinitely repeating sequence of predetermined messages via the common bus, and the receiver is capable of receiving an indefinitely repeating sequence of messages from the common bus. The network controller, in turn, is capable of altering the predetermined messages as the transmitter transmits messages and the receiver receives messages.

In contrast to the network controller of independent Claim 36, the Barr patent does not teach or suggest a network controller including a transmitter and receiver capable of transmitting and receiving, respectively, an indefinitely repeating sequence of messages from a common bus. In addition, the Barr patent does not teach or suggest the network controller being capable of altering the predetermined messages as the transmitter transmits and the receiver receives messages, as also recited by independent Claim 36. The Barr patent does disclose transmitting and receiving messages. Nowhere, however, does the Barr patent teach or suggest that those messages repeat indefinitely, or even that those messages repeat at all.

The first Official Action cites column 1, lines 39-44; column 2, lines 15-21 and 29-32; column 4, lines 1-10; and column 9, lines 36-38 of the Barr patent as disclosing this feature of the claimed invention. Applicants respectfully submit, however, that the cited passages of the Barr patent merely disclose that the host data device and the terminal data device are synchronized with one another, with the data either being synchronous or asynchronous. Further, the cited passage of column 4 of the Barr patent discloses that the configuration of messages between the host data device and terminal data device are set for a time interval, after which the configuration changes. The Barr patent continues by explaining that the time interval during which the configuration of messages is constant can be as long or as short as security requirements demand, and can vary from one period to the next. Even in this passage, the Barr patent at most discloses that a particular configuration of messages can last indefinitely. The Barr patent does not disclose, however, that any particular configuration specifies the transmission or reception of an indefinitely repeating sequence of messages, as recited by independent Claim 36.

Applicants therefore respectfully submit that the network controller of independent Claim 36, and by dependency Claim 37, is patentably distinct from the method and apparatus of the Barr patent. Applicants respectfully submit, then, that the rejection of Claims 36 and 37 under 35 U.S.C. § 102(b) as being anticipated by the Barr patent, is overcome.

II. Claims 33-35 are Patentable over Knapp

The Knapp patent provides a full-duplex integrated circuit communication controller. As disclosed, an integrated circuit chip is provided for controlling the transmission of data between a host peripheral device and other peripheral devices or a remote processor. The integrated circuit chip includes a command register that selects the transfer mode and controls the operation of the integrated circuit chip in either an output or input mode. The chip may operate in a transmit-only mode, receive-only mode or transmit and receive modes simultaneously. The output circuitry generates a bit stream which includes opening and closing flags, Manchester encoded data bits and a frame check signal (FCS) check data bit.

Independent Claim 33 of the present application provides a network controller for digitally directing communications with a plurality of remote devices via a common bus. The network controller includes a transmitter for transmitting digital messages via the common bus, and a receiver for receiving digital messages from the common bus. As also recited, the transmitter is adapted to transmit messages comprising a command and an address of at least one remote device. In addition, the transmitter is adapted to simultaneously transmit messages to a plurality of remote devices in accordance with a group address. The group address includes a plurality of bits, each of which is associated with a respective group. As such, the group address enables the transmitter to direct a message to a group of remote devices by setting the respective bit of the group address.

In contrast to the network controller of independent Claim 33, the Knapp patent does not teach or suggest a network controller that includes a transmitter adapted to simultaneously transmit messages to a plurality of remote devices in accordance with a group address, the group address including a plurality of bits that are each associated with a respective group such that the transmitter is enabled to direct a message to a group of remote devices by setting the respective bit of the group address. The Knapp patent does disclose each of a plurality of terminal devices including a communication controller that can be configured to accept data bit streams addressed to a unique address, a group address or a global address. In this regard, the communication controller includes a unique address register and a group address register that can store a unique address and a group address associated with the respective terminal device for comparison to the address included in an incoming bit stream to determine if the bit stream is intended for the respective terminal device.

While the Knapp patent does disclose terminal devices including a group address, the Knapp patent does not disclose that the transmitter of the network controller is capable of simultaneously transmit messages to a plurality of remote devices in accordance with the group address, in a manner similar to that recited by independent Claim 33. Further, the Knapp does not disclose that the group address of the terminal devices includes a plurality of bits that are each associated with a respective group such that the transmitter can direct a message to a group by setting the respective bit of the group address, as also recited by independent Claim 33. As

disclosed in the specification of the present application, for example, a remote device can be associated with the group addresses 0003hex and 0002hex by storing a group mask that has a set bit representing each group address, i.e., 1100bin. In the foregoing example, additionally setting the first bit associates the remote device with the group address 0000hex, and setting the second bit associates the remote device with the group address 0001hex. The Knapp patent, by contrast, does not explain how the group addresses are configured, much less that the group addresses are configured in a manner similar to that of independent Claim 33.

Applicants therefore respectfully submit that the network controller of independent Claim 33, and by dependency Claim 34 and 35, is patentably distinct from the method and apparatus of the Knapp patent. Applicants respectfully submit, then, that the rejection of Claims 33-35 under 35 U.S.C. § 102(b) as being anticipated by the Knapp patent, is overcome.

III. Claims 13-20, 22-29, 31 and 32 are Patentable over Barr and Nelson

As explained in subsection I. above, the Barr patent provides a method and apparatus for providing secure electronic communications between data devices over an analog communications medium between first and second locations. The Nelson patent, on the other hand, provides a variable bandwidth branch exchange system for interfacing a network ring to a plurality of peripheral loops that are each connected to local stations and a node on the network ring. As disclosed a node **21** on the network ring **25** can include a station interface module (SIM) **57** (see FIG. 5) coupled to a voice/data digital telephone, as shown in FIG. 13. As disclosed, the voice/data digital telephone receives, from the SIM, a biphase mark encoded data stream, biphase mark encoding being a form of Manchester encoding. The voice/data digital telephone can then process the data stream for proper operation. In this regard, the voice/data digital telephone can include a switch **241** that can be directed by a Uart **239** to apply receive data and transmit data to the Uart and not a microtelephone controller (MTC) **229**, as is otherwise the case. The receive data and transmit data are then processed by the Uart and a microprocessor **237** for transmission on a packet channel, as opposed to being processed by the MTC.

Independent Claim 13 of the present application provides a method for digitally communicating between a network controller and a plurality of remote devices via a common bus. The method includes configuring the controller based upon a command protocol according to which the plurality of remote devices can communicate. In this regard, the plurality of remote devices are capable of communicating according to a command protocol selected from the group consisting of Manchester encoding and a Universal Asynchronous Receiver Transmitter (UART) protocol. In addition, the method includes transmitting messages between the bus controller and the plurality of remote devices according to the same command protocol with which the plurality of remote devices are capable of communicating.

In contrast to the method of independent Claim 13, neither the Barr patent nor the Nelson patent, individually or in combination, teach or suggest configuring a network controller based upon a command protocol according to which a plurality of remote devices can communicate. As explained above, the Barr patent discloses a host data device **20** and a terminal data device **100** communicating across a communications channel **45**, where a composite modem is coupled to each end of the communications channel between the channel and a respective data device. *See* Barr '357 Patent, FIG. 1. Neither the host data device or the terminal data device, or the composite modems coupled thereto, however, are configured based upon a command protocol according to which a plurality of remote devices can communicate. Further, the Barr patent likewise does not teach or suggest transmitting messages between the bus controller and the plurality of remote devices according to the same command protocol with which the plurality of remote devices are capable of communicating, as also recited by independent Claim 13.

As explained above, it could be suggested for the sake of comparison that the characteristic controllers of the terminal composite modem of the Barr patent correspond to remote devices of the claimed invention. Even in such an instance, however, only one of the characteristic controllers is disclosed as being configurable in accordance with a command protocol such as Manchester encoding or the UART (Universal Asynchronous Receiver Transmitter) protocol, that is the modulation technique characteristic controller **210**. Thus, at most the Barr patent discloses that the host composite modem, or more particularly the modulation technique characteristic controller of the host composite modem, is configured based

upon a command protocol according to which a plurality of remote devices can communicate, as recited by independent Claim 13.

Like the Barr patent, the Nelson patent also does not teach or suggest configuring a network controller based upon a command protocol according to which a plurality of remote devices can communicate. The Nelson patent does disclose a voice/data digital telephone that receives a data stream encoded with a form of Manchester encoding, where the voice/data digital telephone includes a Uart capable of receiving and transmitting data otherwise received and transmitted by a microtelephone controller (MTC). The Nelson patent does not disclose, however, that the voice/data digital telephone is capable of being configured in accordance with a command protocol selected from Manchester encoding and the UART protocol, as is the network controller of the claimed invention. In this regard, the voice/data digital telephone is constructed to receive a Manchester encoded data stream, and include a Uart for processing data, and is therefore not configured based upon a command protocol selected from either Manchester encoding or the UART protocol, as is the claimed invention.

Moreover, even if the Barr and Nelson patents disclosed the features of the claimed invention as alleged by the Official Action, the motivation suggested by the Official Action for combining the Barr and Nelson patents is lacking. In this regard, the Official Action alleges it would be obvious to utilize the Manchester encoding of the Nelson patent in the Barr system because Manchester encoding allows simple synchronization with the sender and the receiver, and Barr provides for complete synchronization. Initially, Applicants question whether one skilled in the art would be motivated to modify the synchronization of a system that is already described as providing "complete synchronization." If the Barr system is described as providing "complete synchronization," Applicants wonder why one skilled in the art be motivated to modify the synchronization scheme disclosed by the Barr patent.

With respect to the motivation to configure a network controller in accordance with the UART protocol, the Official Action explains that UARTs provide a means for parallel data (ordinary computer data) to be transmitted serially (bus), thus negating the implementation for additional, specialized hardware, and thus decreasing cost. Applicants fail to recognize, however, where the Barr system transmits data in parallel, thus necessitating the use of

additional, specialized and costly hardware that would otherwise be obviated by configuring the transmission of messages in accordance with the UART protocol. In this regard, Applicants respectfully submit that the Barr patent neither teaches nor suggests the drawback cited by the Official Action as driving the motivation to configure a network controller in accordance with the UART protocol.

Moreover, the Barr system already describes a system capable of configuring the modulation technique of communications between devices, providing, as examples, AM (amplitude modulation), FSK (frequency shift keying), PM (phase modulation) and QAM (quadrature amplitude modulation). With an already provided list of four different types of modulation, Applicants respectfully submit that if the inventor of the Barr system, presumably one skilled in the art, would have found it obvious to modulate in accordance with Manchester encoding or the UART protocol, and if either modulation technique provided such advantages as proffered by the Official Action, the Barr inventor would have included such modulation techniques as additional or alternative examples. Such a lack of including either Manchester encoding or UART protocol, Applicants respectfully submit, further evidences the fact that one skilled in the art would not be motivated to combine the teachings of the Barr and Nelson patents as alleged by the Official Action.

Applicants therefore respectfully submit that the method of independent Claim 13 is patentably distinct from the Barr and Nelson patents, taken individually or in combination. Applicants also respectfully submit that independent Claim 24 of the present application recites subject matter similar to that of independent Claim 13. In this regard, independent Claim 24 recites a network controller including a transmitter and a receiver responsive to a command protocol select command that identifies the command protocol according to which the plurality of remote devices are capable of communicating such that the transmitter and receiver operate in accordance with the identified protocol. Further, independent Claim 24 recites that the transmitter and receiver are capable of selectively operating in accordance with any command protocol selected from the group consisting from Manchester encoding and the UART protocol. Thus, Applicants respectfully submit that independent Claim 24 is patentably distinct from the

Barr and Nelson patents, taken individually or in combination, for at least the same reasons given above with respect to independent Claim 13.

Applicants therefore respectfully submit that the method and network controller of independent Claims 13 and 24, and by dependency Claims 14-23 and 25-32, is patentably distinct from the method and apparatus of the Barr and Nelson patents, taken individually or in combination. Applicants respectfully submit, then, that the rejection of Claims 13-20, 22-29, 31 and 32 under 35 U.S.C. § 103(a) as being unpatentable over the Barr patent in view of the Nelson patent, is overcome.

IV. Claim 9 is Patentable over Barr and Gulick

The Gulick patent provides a computer system including a memory access controller for using non-system memory storage resources during system boot time. As disclosed, the computer system includes a microprocessor, a system memory and a plurality of peripheral devices coupled to the microprocessor through one or more buses. The system also includes a number of peripheral device controllers that contain buffer memory used by the peripheral device controllers during normal system operation to buffer data between the computer system and the peripheral devices. The computer system also includes a memory access controller and a configuration storage unit. The memory access controller controls access to the buffer memory associated with the peripheral devices during system initialization to allow use of the buffer memory as a stack or scratchpad RAM.

Dependent Claim 9 recites the network controller of dependent Claim 8, and thereby independent Claim 1, whereby the network controller is capable of interacting with a host computer having stack memory and random access memory (RAM). As also recited, when the network controller is acting as a remote device, a master network controller is capable of selectively accessing either the stack of sequential memory or the RAM.

As explained above, in contrast to the network controller of independent Claim 1, and by dependency Claim 9, the Barr patent does not teach or suggest a network controller including a clock for providing clock signals to both a transmitter and a receiver of the network controller.

Likewise, Gulick patent does not teach or suggest a network controller including a clock for providing clock signals to both a transmitter and a receiver of the network controller.

In further contrast to the network controller of dependent Claim 9, neither the Barr patent nor the Gulick patent teach or suggest a network controller is capable of interacting with a host computer having stack memory and random access memory (RAM) such that when the network controller is acting as a remote device, a master network controller is capable of selectively accessing either the stack of sequential memory or the RAM, as recited by dependent Claim 9. As explained above, the Gulick patent does disclose a memory access controller for controlling access to the buffer memory associated with the peripheral devices. As disclosed by the Gulick patent, however, the memory access controller controls access to the buffer memory during system initialization to allow use of the buffer memory as a stack or scratchpad RAM. The Gulick patent therefore discloses that a single buffer memory is configured as either a stack or scratchpad RAM. By contrast, the host computer of the claimed invention includes stack memory and RAM, where the master network controller is capable of selectively accessing either type of memory.

Applicants therefore respectfully submit that the network controller of dependent Claim 9 is patentably distinct from the method and apparatus of the Barr and Gulick patents, taken individually or in combination, and as such, the rejection of Claim 9 under 35 U.S.C. § 103(a) as being unpatentable over the Barr patent in view of the Gulick patent, is overcome.

V. Claim 11 is Patentable over Barr and Marino

The Marino patent provides a circuit for monitoring the formation and termination of interconnections in a time-division switch. As disclosed, the circuit utilizes time-division switching for interconnecting incoming data channels to outgoing channels by means of a common time-division multiplex data bus. More particularly, the circuit monitors the formation and termination of data channel interconnections in time-division multiplex switching systems.

Dependent Claim 11, which depends on independent Claim 10 explained above in subsection 1.B., recites a network controller including a transmitter further capable of transmitting an example message to remote device(s) at an altered bit rate following alteration of

the predetermined bit rate. In contrast to the network controller of independent Claim 10, and by dependency dependent Claim 11, the Barr patent does not teach or suggest a network controller for digitally directing communications with a plurality of remote devices via a common bus, or that the network controller includes a receiver capable of receiving messages as the transmitter alters the predetermined bit rate without relying upon any clock signals. Similarly, the Marino patent does not teach or suggest a network controller for digitally directing communications with a plurality of remote devices via a common bus, or that the network controller includes a receiver capable of receiving messages as the transmitter alters the predetermined bit rate without relying upon any clock signals, as recited by independent Claim 1 and by dependency Claim 11.

Further, as conceded by the Official Action, the Barr patent does not teach or suggest transmitting an example message to remote device(s) at an altered bit rate following alteration of the predetermined bit rate, as recited by dependent Claim 11. Likewise, and in contrast to the Official Action, the Marino patent likewise does not teach or suggest transmitting an example message to remote device(s) at an altered bit rate following alteration of the predetermined bit rate. The first Official Action cites column 1, lines 16-19 of the Marino patent as disclosing this feature of the claimed invention (explaining that a transmission path carries data defining a sample or samples of a message signal from a channel source). Applicants respectfully submit, however, that properly interpreted, the cited passages of the Marino patent merely discloses a conventional time-division multiplexing technique whereby a message signals including a plurality of samples is multiplexed over a number of time slots. The Marino patent therefore does not disclose the transmission of an example message, but rather the transmission of a message in a time-multiplexed manner.

Applicants therefore respectfully submit that the network controller of dependent Claim 11 is patentably distinct from the method and apparatus of the Barr and Marino patents, taken individually or in combination, and as such, the rejection of Claim 11 under 35 U.S.C. § 103(a) as being unpatentable over the Barr patent in view of the Marino patent, is overcome.

CONCLUSION

In view of the amendments to the specification and the claims, and the remarks presented above, Applicants respectfully submit that all of the pending claims of the present application are in condition for allowance. As such, the issuance of a Notice of Allowance is therefore respectfully requested. In order to expedite the examination of the present application, the Examiner is encouraged to contact Applicants' undersigned attorney in order to resolve any remaining issues.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

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